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10/655,692	09/05/2003	Akiyoshi Hashimoto	16869S-093900US	6495

  

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EXAMINER	
WHIPPLE, BRIAN P	

  

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2152	

  

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/655,692

Applicant(s)

HASHIMOTO, AKIYOSHI

Examiner

Brian P. Whipple

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-15 are pending in this application and presented for examination. Claim 15 has been added by Applicant's amendment filed on 11/26/07.

### *Response to Arguments*

2. Applicant's arguments, see page 8, filed 11/26/07, with respect to the objections to the drawings have been fully considered and are persuasive. The drawing objections have been withdrawn.
3. Applicant's arguments, see pages 17-18, filed 11/26/07, with respect to the 35 U.S.C. 103(a) rejections of claims 9-10 have been fully considered and are persuasive in light of the amended subject matter. The 35 U.S.C. 103(a) rejections of claims 9-10 have been withdrawn. Reasons for indicating allowable subject matter are given below.
4. Applicant's arguments with respect to the remaining claims have been considered but are moot in view of the new ground(s) of rejection.

### *Allowable Subject Matter*

5. Claims 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter in claim 9: the prior art does not teach or suggest said file control unit issues the authentication information-change instruction to said hard disk drive at system startup time to inhibit said hard disk drive from communicating with devices other than said file control unit, and wherein the file control unit allows a requesting device on the network to set an ownership flag in the authentication information of any hard disk drive in the plurality of hard disk drives in which no owner has been set yet.

7. The following is a statement of reasons for the indication of allowable subject matter in claim 10: the prior art does not teach or suggest said file control unit comprises setting means that allows a manager of said file server system to set a ratio of an amount of data transferred in a communication between said file control unit and said clients to an amount of data transferred in a communication between said file control unit and said hard disk drives and wherein the amount of data transferred in the communication between said file control unit and said clients and the amount of data transferred in the communication

between said file control unit and said hard disk drives are measured to control a priority of communication processing so that a ratio that is obtained by the measured data amounts approaches the ratio that is set.

*Claim Rejections - 35 USC § 103*

8. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis et al.

(Hubis), U.S. Patent No. 6,343,324 B1, in view of Igari, U.S. Patent No. 6,742,094 B2.

9. As to claim 1, Hubis discloses a file server system (Col. 1, ln. 23-26) comprising:

a plurality of hard disk drives connected to a plurality of clients via a network (Col. 7, ln. 22-30); and

a file control unit connected to the network for accepting an access request from said clients to said hard disk drives to manage the data input/output of said plurality of hard disk drives (Fig. 1; Col. 7, ln. 65 – Col. 8, ln. 2; Col. 8, ln. 43-48),

wherein said file control unit has configuration information with which a plurality of pieces of identification (ID) information, each identifying one of said plurality of hard disk drives, can be registered (Col. 2, ln. 39-56; Col. 2, ln. 64 – Col. 3, ln. 3; Col. 10, ln. 31-41) and

said file control unit broadcasts a hard disk drive search message to the plurality of hard disk drives via said network at each initialization of the file control unit (Fig. 2B-2 and

3A; Col. 6, ln. 3-8; Col. 14, ln. 41 – Col. 15, ln. 9; when the file control unit of Hubis is booted initially, clearly it must locate and identify each logical volume and each hard disk drive in order to function properly for the purposes of storage),

wherein, in response to the hard disk drive search message, a hard disk drive in the plurality of hard disk drives returns ID information identifying itself to said file control unit (Fig. 2B-2 and 3A; Col. 6, ln. 3-8; Col. 14, ln. 41 – Col. 15, ln. 9; as discussed for the limitation above, clearly the hard disk drives must identify themselves to the logical volume and the file control unit in order to function properly in the storage network)

wherein, in response to a result of comparing the returned ID information with the configuration information, said file control unit establishes a setting such that the hard disk drive cannot directly communicate with devices on said network other than said file control unit (Fig. 1; Fig. 3B, items 323-325; Col. 15, ln. 32-40).

As discussed in the previous Office action mailed on 6/25/07, even if Applicant believes Hubis silent on said file control unit broadcasts a hard disk drive search message via said network,

wherein, in response to the hard disk drive search message, said hard disk drive returns the ID information specifying the self hard disk drive to said file control unit;

Igari discloses said file control unit broadcasts a hard disk drive search message via said network (Col. 4, ln. 49-53),

wherein, in response to the hard disk drive search message, said hard disk drive returns the ID information specifying the self hard disk drive to said file control unit (Col. 4, ln. 49-53).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis by locating a hard disk drive by searching for and returning hard disk drive ID information as taught by Igari in order to transfer data and information from a hard disk drive to a requesting host system (Igari: Col. 4, ln. 49-53).

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis and Igari as applied to claim 1 above, and further in view of Pherson et al. (Pherson), U.S. Publication No. 2002/0095602 A1.

11. As to claim 2, Hubis and Igari disclose the invention substantially as in parent claim 1, including a file control unit (Hubis: Fig. 1, item 104), but are silent on a management terminal connected to said file control unit to perform maintenance work.

However, Pherson discloses a management terminal connected to said file control unit to perform maintenance work ([0022]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis and Igari by including a management terminal as

taught by Pherson in order to allow a system manager to explicitly define access (Pherson: [0022]).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis, Igari, and Pherson as applied to claim 2 above, and further in view of Nahum, U.S. Publication No. 2004/0078599 A1.

13. As to claim 3, Hubis, Igari, and Pherson disclose the invention substantially as in parent claim 2, but are silent on a firewall connected between said file control unit and said hard disk drives for controlling communication between said management terminal and said hard disk drives.

However, Nahum discloses a firewall connected between said file control unit and said hard disk drives for controlling communication between said management terminal and said hard disk drives (Fig. 1 and 12; [0027]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis, Igari, and Pherson by including a firewall as taught by Nahum in order to ensure security between the hard disk drives and systems, including the management system.



14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis, Igari, and Pherson as applied to claim 2 above, and further in view of Daoud et al. (Daoud), U.S. Publication No. 2002/0087694 A1.

15. As to claim 4, Hubis, Igari, and Pherson disclose the invention substantially as in parent claim 2, including a file control unit (Hubis: Fig. 1, item 104) and communication with a management terminal (Pherson: [0022]), clients (Hubis: Fig. 1, items 101-1, 101-2, 101-3, and 120), and hard disk drives (Hubis: Fig. 1, items 108-1, 108-2, 108-3, 108-N, and 122; Col. 7, ln. 22-30).

Hubis, Igari, and Pherson are silent on a priority unit that puts a higher priority on communication with said management terminal than on other forms of communication.

However, Daoud discloses a priority unit that puts a higher priority on communication with said management terminal than on other forms of communication ([0027]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis, Igari, and Pherson by putting a higher priority on communications with a management terminal as taught by Daoud in order to ensure that packets sent from an administrator using administration tools are given a higher priority as

such changes may be desired by the administrator to be implemented as soon as possible as to prevent the network from being run any longer on the old settings.

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis and Igari as applied to claim 1 above, and further in view of Pham et al. (Pham), U.S. Publication No. 2003/0105830 A1.

17. As to claim 5, Hubis and Igari disclose the invention substantially as in parent claim 1, including said file control unit (Hubis: Fig. 1, item 104) and said plurality of hard disk drives (Hubis: Fig. 1, items 108-1, 108-2, 108-3, 108-N, and 122; Col. 7, ln. 22-30).

Hubis is silent on said file control unit and said plurality of hard disk drives have an iSCSI internet small computer system interface (iSCSI) interface for communication on the network using the internet protocol (IP).

However, Pham discloses that an iSCSI internet small computer system interface (iSCSI) interface for communication on the network using the internet protocol (IP) is well known in the art ([0008]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis and Igari by utilizing an iSCSI interface as taught by Pham in order to combine the benefits of IP remote transport and the reliable quality of

service provided by the TCP protocol with storage transaction session control under the SCSI protocol (Pham: [0008]).

18. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis and Igari as applied to claim 1 above, and further in view of Nahum.

19. As to claim 6, the claim is rejected for the same reasons as claim 3 above. The firewall between the system administrator and the hard disk drives is a device that inhibits or permits communication.

20. As to claim 7, Hubis, Igari, and Nahum disclose the invention substantially as in parent claim 1, including said hard disk drive comprises authentication information with which identifiers of part or all devices connected to said network and authentication codes corresponding to the identifiers of the devices can be registered, said identifiers being used on said network and wherein, upon receiving a communication permission from a device on said network, said hard disk drive compares an authentication code sent by the device with the authentication codes registered with the authentication information, permits communication if a match is found, and inhibits communication if a match is not found (Igari: Col. 3, ln. 55-63; Col. 4, ln. 13-24).

21. As to claim 8, Hubis, Igari, and Nahum disclose the invention substantially as in parent claim 7, including when said hard disk drive confirms that a device on the network is an owner of the particular hard disk drive and is registered in the authentication information, said file control unit allows said hard disk drive to change the authentication information according to an authentication information-change instruction received from the device via the network (Hubis: Fig. 1, 2B-2, 3A, and 3B, items 323-325; Col. 6, ln. 3-8; Col. 14, ln. 41 – Col. 15, ln. 9; Col. 15, ln. 32-40; Col. 19, ln. 10-19; Igari: Col. 6, ln. 66 – Col. 7, ln. 6).

22. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis, in view of Igari, in view of Pherson, in view of Moulton et al. (Moulton), U.S. Patent No. 7,062,648 B2.

23. As to claims 11 and 13-14, the claims are rejected for the same reasons as claim 1 above. Hubis and Igari are silent on the use of hubs and VPNs, but these are well known in the art and obvious design choices. Additionally, Pherson discloses hubs in a storage network ([0009]) and Moulton discloses the use of VPNs in a storage network (Col. 10, ln. 24-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hubis and Igari by utilizing hubs and VPNs as taught by Pherson and Moulton respectively as both are well known in the art and standard means of providing for network communication.

24. As to claim 12, the claim is rejected for the same reasons as claims 2 and 11 above.

25. As to claim 15, the claim is rejected for the same reasons as claims 1 and 11-14 above. Hubis discloses access control and thus acts as a firewall (Col. 15, ln. 32-40).

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Whipple whose telephone number is (571) 270-1244. The examiner can normally be reached on Mon-Fri (8:30 AM to 5:00 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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BPW

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1/23/08

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January 29, 2008